Operational Safety Excellence
A Key Element in Achieving Sustainable Operations

Operational integrity for the petrochemical, oil & gas, manufacturing, mining and utility industries.
Operational Safety Overview

Operational Sustainability, LLC (OS) offers a comprehensive Operational Safety Excellence methodology that integrates cultural safety with process safety. We offer an evolutionary program that enables organizations and individuals to understand their personal behaviors in the context of the greater EH&S culture along with a roadmap showing how improvements can be generated – and maintained – within the organization.

Implementation of EH&S management systems to date has tended to be mechanical – setting and meeting minimal requirements – but not going further. The result is performance plateaus, requiring radical new approaches to be developed in order to move forward. The question is always: How is further improvement possible? The answer is commitment by all of those involved to make improvements.

Simply having an EH&S management system does not guarantee personnel will do more than the minimum required to meet the standards. Outstanding performance and continuous improvement are only achieved when there is a culture where various elements of the management system can flourish, and exceeding minimum expectations is seen as the norm. The level of active involvement demonstrated by a fully-developed safety culture eliminates the need for a number of processes.

Organizational climate and culture is not a simple concept. “Culture” is a soft term used to describe an organization’s commonly held values, norms, and beliefs. While values and beliefs may seem subjective in nature, objective descriptions can be defined for the various widely held elements and principles of process safety. Safety climate deals with the expectations and perceptions of the workforce. It refers to the experience that must be tempered by the expectations. Culture represents the unspoken, and often invisible set of beliefs and assumptions that everyone shares. If you can affect the climate, the culture can begin to change.
Characteristics of a Safety Culture

There are five stages of safety culture progression:

Resistive
✓ No program exists, or significant requirements are incomplete or ineffective.
✓ Policies and procedures may be partially documented.
✓ Incidents are rarely reported or investigated, and there’s no verification of policy effectiveness.
✓ No significant use of available tools, and very little training has been conducted.
✓ No leadership involvement in implementation.

Basic
✓ Program exists, but the element is lacking completeness or effectiveness.
✓ Policies and procedures are being documented and disseminated.
✓ A safety governance process has been established with limited effectiveness.
✓ Incidents are reported and investigated, although recommendations are not always completed quickly.
✓ Performance management tools are being developed, while audit processes are in place to measure program success.
✓ Management receives necessary training and drives improvement through a risk-based “plan-do-check-adjust” process.

Learning
✓ Program fully implemented at minimum requirements.
✓ Policies and procedures have documentation in place and are understood by all employees.
✓ An effective safety governance process is established, along with a fully functional incident investigation process.
✓ Skills are in-place and practiced at all levels of the organization.
✓ Management understands the element and drives plans to improve performance.
✓ Management recognizes safety initiatives and reinforces good performance, regularly reviewing it with employees.

Advanced
✓ Program exceeds the minimum level of all requirements in the element.
✓ Program goals and objectives with Key Performance Indicators (KPI) and associated metrics are being managed, leading to continuous performance improvement.
✓ Established employee networks work effectively, having an advanced level of expected results.
✓ Each element has a designated leader who monitors and maintains the health of the element.

World-Class
✓ Program achieves the highest level of effectiveness and completeness.
✓ Results compare very favorably with companies considered best in class.
✓ Work teams are the primary instruments of change to sustain the element.
✓ All decisions are made with safety given equal priority to cost, production, and quality.
✓ Employees have excellent housekeeping and organizational pride, and help each other do the same.
Going Further Toward Cultural Safety

Companies who achieve cultural safety exhibit five major characteristics:

1. Maintain a sense of vulnerability.
2. Informed and engaged at all levels.
3. Exhibit trust among all parties.
4. Feel leadership commitment and support.
5. Performance-driven and adaptable to changes in conditions.

These characteristics define an end-point, but do not indicate how to achieve such a culture. Developing an evolutionary roadmap makes the transition to cultural safety easier.

Cultural Safety Leads to Operational Safety Excellence

The foundational element – all levels of management must visibly demonstrate their commitment to safety by their actions, decisions and communications.

**Figure 2 – OS Cultural Safety Elements**
Why Cultural Safety Excellence and Process Safety Together?

Without executing cultural safety, companies will struggle to implement an effective process safety management system.

Process Safety consists of the 14 elements required by OSHA. In addition, OS embraces Risk-Based Process Safety as advocated by The Center for Chemical Process Safety (CCPS).

- Employee Participation
- Process Safety Information
- Process Hazards Analysis (PHA)
- Operating Procedures
- Training
- Contractors
- Pre-Startup Safety Review (PSSR)
- Mechanical Integrity
- Hot Work Permit
- Management of Change (MOC)
- Incident Investigation
- Emergency Planning and Response
- Compliance Audits
- Trade Secrets

Companies continue to invest in safety, only to reach glass ceilings due to cultural and resource constraints. As the Total Recordable Incident Rate (TRIR) approaches 0.17 to 0.22 in world-class safety organizations the severity of these incidents is starting to spike. This is especially troubling since safety management systems commonly used in the quest for zero incidents are widely believed to reduce both the frequency and severity of incidents. Couple this with the recent downturn in the energy sector and the retiring workforce, and companies are faced with the challenge of sustaining the low TRIR rate.

Congress recently passed a budget agreement containing a provision allowing OSHA to increase fines by more than 80% starting August 2016.* The law permits an increase of up to 82% because fines have not been raised since 1990. The rise in fines is being described as a “catch up” amount in order to account for the inflation rate from 1990 to 2015.

With the fines in place, serious citations would increase from $7,000 to $12,740, and repeat and willful citations would increase from $5,000-$70,000 to $9,100-$127,400. Based on these federal increases, state plans will also be rising in accordance.

In addition to rising fines, the average direct and indirect costs for a single instance continues to rise.

**Figure 4 – Average Injury Cost for Single Instance ($000)**

*Direct and Indirect Cost Estimates from OSHA’s Safety Pays Program*

<table>
<thead>
<tr>
<th>Injury Type</th>
<th>Direct</th>
<th>Indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laceration</td>
<td>40.023</td>
<td></td>
</tr>
<tr>
<td>Black Lung</td>
<td></td>
<td>106.425</td>
</tr>
<tr>
<td>Multiple Injuries (Physical and Psychological)</td>
<td>262.825</td>
<td></td>
</tr>
<tr>
<td>Electric Shock</td>
<td></td>
<td>181.708</td>
</tr>
<tr>
<td>Hearing Loss or Impairment (traumatic only)</td>
<td>44.001</td>
<td></td>
</tr>
<tr>
<td>Contusion</td>
<td>56.788</td>
<td></td>
</tr>
<tr>
<td>Carpal Tunnel Syndrome</td>
<td></td>
<td>63.0</td>
</tr>
<tr>
<td>Burn</td>
<td>78.516</td>
<td></td>
</tr>
</tbody>
</table>

Potential indirect costs not included in Figure 4 estimates:
- OSHA fines and any associated legal action
- Third-party liability and legal costs
- Worker pain and suffering
- Equipment repair and cleanup
- Lost production
- Loss of good will from bad publicity and community relationships

**How to Get Started**

The Journey to Cultural Safety Excellence begins with a Safety Perception Survey and Safety Assessment.

**Safety Perception Survey**
Discover your employees’ true attitudes, beliefs, perceptions and values around safety

**Safety Assessment**
Tool to set direction and begin the journey to Operational Safety Excellence
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**Method 1 (Safety Perception Survey):**
- Quick
- Inexpensive
- Understand what both managers and employees think about safety
- Ask a couple dozen questions
- Allows comments
- Anonymous
- Report with understanding of strengths and weaknesses and rate relative to world-class safety organizations
- Provides a baseline for measuring improvement

**Method 2 (Safety Assessment):**
- Relatively inexpensive
- Requirements
  - Provide facility safety performance data in advance
  - Consultants interact/interview employees and managers
  - Review current safety processes at the facility
- Conduct assessment workshop
  - Detailed review of the 20 elements
  - Review assessment results showing strengths and opportunities
  - Recommend programs and actions needed to close the gaps for each opportunity
  - Option to include PSM Assessment

**What is the Next Step?**
Once you know what programs or actions are needed
- Begin the journey led by your own resources
- Bring in consultants to guide you
- Begin implementing cultural safety in your organization
Put Our Experience to Work

OS Can:

• Conduct the Safety Perception Survey
• Conduct the Safety Assessment and Workshop
• Recommend actions needed to achieve Cultural Safety Excellence
• Help you complete the implementation

OS offers its OSSuite™ solutions to address your cultural safety needs. The software provides your organization with tools that save time, increase management effectiveness, reduce risks, and ensure regulatory compliance.

Essential Features Include:

- CAPA – Corrective Action/Preventive Action Management
- Competency
- Compliance Management
- Incident Management
- Procedure Management
- Document Management
- Training Management
- Audit
- Observations
- Assessment
- Survey
- Performance Management

The OSSuite™ Modules

Learn how Operational Sustainability can advise, train, and guide your workforce with the most comprehensive and effective operational risk management (ORM) software and consulting services available today. See our full slate of free webinars, white papers, detailed module information, and scheduled trainings online at os-orm.com. Schedule your free consultation and demo today.